6.12 THE PROVENCE ST RADAR

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INTRODUCTION

Since the ALPEX Campaign in 1982, when 3 ST radars have been operating in Camarque as a cooperative effort of the Aeronomy Laboratory of NOAA, CO and the LSEET from Toulon, a 50-MHz VHF ST radar has been developed, improved and operated during different experiments.

OPERATING CHARACTERISTICS

- Successive frequencies: 48.85 MHz, 47.8 MHz, 45 MHz
- RF pulse width : 1, 2, 4, 16 μs
- Peak power : 50 kW
- Antenna : 3 x 60 x 60 m^2 coco antennas
- Minimum range : 1 km

MAIN OBJECTIVES

- Physics of the measurement by ST radar by coordinated experiments with other instruments (balloons, lidar, sodar, cm and mm radars, scidar).
- Investigation of gravity waves with ST radar networks and coordinated experiments (Fronts 84 - Fronts 87).
- Investigation of mistral and jet stream.

PRELIMINARY RESULTS

- Gravity waves studies during "ALPEX 82"
- Jet stream and jet streaks "PROVENCE 84"
- Gravity wave studies during "FRONTS 84"
- ST radar - CAT balloons comparisons "MAI 84"
- Multifrequency radar comparisons "FRONTS 84"

FUTURE EXPERIMENTS

- Jet stream and mistral investigations from 2 stations in the south of France.
- Gravity waves and Fronts studies with 3 ST radars during the cooperative experiment "FRONTS 87".
- Multifrequency investigations
- Site comparisons in the south of France